

Serial No.: 10/677,154

LISTING OF CLAIMS

1. (Currently amended) A method for making optical proximity corrections to for a reticle layout topology, comprising:

a) manipulating edge segments of the reticle layout topology using optical proximity correction (OPC) to generate a corrected reticle layout accounting for optical distortions;

b) generating a plurality of individual figure of merit values each of which are associated with the corrected reticle layout and correspond to a different process metric; and

c) generating a generalized figure of merit (GFOM) using the plurality of individual figure of merit values; and

d) manipulating the edge segments of the corrected reticle layout to arrive at a revised corrected reticle layout using OPC guided by the GFOM as a convergence benchmark that indicates a degree of optimization of local critical dimension (CD) accuracy.

2. (Canceled)

3. (Currently amended) The method according to claim [[2]] 1, further comprising:

e) generating a revised second plurality of individual figure of merit values associated with the revised second corrected reticle layout and generating a revised second GFOM using the revised second plurality of individual figure of merit values.

4. (Currently amended) The method according to claim 3, wherein an equation defining the revised second GFOM differs from an equation defining the GFOM of c).

Serial No.: 10/677,154

5. (Original) The method according to claim 1, wherein an equation defining the GFOM is user definable.

6. (Original) The method according to claim 1, wherein at least one of the individual figure of merit values is user definable.

7. (Original) The method according to claim 1, wherein the individual figure of merit values are selected from edge placement error, image contrast, depth of focus, image slope, fragmentation complexity and combinations thereof.

8. (Original) The method according to claim 1, wherein the individual figure of merit values include at least image contrast.

9. (Original) The method according to claim 1, wherein the individual figure of merit values include at least depth of focus.

10. (Original) The method according to claim 1, wherein the individual figure of merit values include at least image slope.

11. (Original) The method according to claim 1, wherein the individual figure of merit values include at least fragmentation complexity.

12. (Original) The method according to claim 1, wherein the GFOM is a weighted sum of each individual figure of merit value.

13. (Currently amended) The method according to claim [[1]] 3, wherein d) to e) a) to e) are iteratively carried out on using the revised corrected reticle layout of the previous iteration guided by the GFOM associated with the revised corrected reticle layout of the previous iteration and the GFOM from the previous iteration until the

Serial No.: 10/677,154

GFOM of e) indicates an acceptable convergence on a reticle layout that accounts for optical distortion and at least one process factor.

14. (Currently amended) The method according to claim 1, wherein a) to d) ~~a) to c)~~ are carried out for a portion of the reticle layout topology defined by a logical window.

15. (Currently amended) A program embodied in computer readable medium to make optical proximity corrections to ~~for~~ a reticle layout topology, comprising:

a) code that manipulates edge segments of the reticle layout topography using optical proximity correction (OPC) to generate a corrected reticle layout accounting for optical distortions;

b) code that generates a plurality of individual figure of merit values each of which are associated with the corrected reticle layout and correspond to a different process metric; and

c) code that generates a generalized figure of merit (GFOM) using the plurality of individual figure of merit values; and

d) code that manipulates the edge segments of the corrected reticle layout to arrive at a revised corrected reticle layout using OPC guided by the GFOM as a convergence benchmark that indicates a degree of optimization of local critical dimension (CD) accuracy.

16. (Canceled)

17. (Currently amended) The program embodied in computer readable medium according to claim ~~[[16]]~~ 15, further comprising:

e) code that generates a revised second plurality of individual figure of merit values associated with the revised second corrected reticle layout and generates a

Serial No.: 10/677,154

revised second GFOM using the revised second plurality of individual figure of merit values.

18. (Currently amended) The program embodied in computer readable medium according to claim 17, wherein an equation defining the revised second GFOM differs from an equation defining the GFOM of c).

19. (Original) The program embodied in computer readable medium according to claim 15, wherein the individual figure of merit values are selected from edge placement error, image contrast, depth of focus, image slope, fragmentation complexity and combinations thereof.

20. (Original) The program embodied in computer readable medium according to claim 15, wherein the GFOM is a weighted sum of each individual figure of merit value.

21. (Currently amended) The program embodied in computer readable medium according to claim 15, wherein ~~a) to c)~~ are iteratively carried out using the 17, further comprising code that iteratively carries out d) to e) on the revised corrected reticle layout of the previous iteration guided by the GFOM associated with the revised corrected reticle layout of the previous iteration and the GFOM from the previous iteration until the GFOM indicates an acceptable convergence on a reticle layout that accounts for optical distortion and at least on process factor.

22. (Currently amended) The program embodied in computer readable medium according to claim 15, wherein a) to d) ~~a) to c)~~ are carried out for a portion of the reticle layout topology defined by a logical window.

Serial No.: 10/677,154

23. (New) The method according to claim 1, wherein the GFOM is calculated to account for process variations to which the OPC edge segment manipulations make the corrected reticle layout unstable.

24. (New) The program embodied in computer readable medium according to claim 15, wherein the GFOM is calculated to account for process variations to which the OPC edge segment manipulations make the corrected reticle layout unstable.